Paper No. 35

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Ex parte WILLIAM C. GALLOWAY

Appeal No. 2001-2236
Application 07/955,669[1]

ON BRIEF

Before JERRY SMITH, BARRETT, and RUGGIERO, Administrative Patent Judges.

BARRETT, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134 from the final rejection of claims 1-11.

We reverse.

[1] Application for patent filed October 2, 1992, entitled "Method Of Communicating With A SCSI Bus Device That Does Not Have An Assigned SCSI Address."

BACKGROUND

The disclosed invention relates to a method and device for selecting a device on a SCSI bus without that device having an assigned SCSI address. One problem with the SCSI standard is that it only provides for eight SCSI addresses, which are identified by one of eight lines on the SCSI data bus DB<7..0>. Normally, two devices, an initiator and a target, communicate by setting two corresponding bits on the SCSI data bus DB<7..0>. In the invention, if a target without an assigned SCSI address determines that only one bit is set on the SCSI data bus, it knows that it has been selected and responds on the SCSI bus. The invention in effect provides for an extra SCSI address without being inconsistent with the SCSI standard.

Claim 1 is reproduced below.

> 1. A method of communicating on a SCSI bus between an initiator device and a separate target device, the separate target device not being assigned a SCSI address, comprising the steps of:
>
> providing the initiator device and the separate target device on the SCSI bus as physically separate devices;
>
> the separate target device monitoring the signals on the SCSI bus for the start of a SELECTION phase;
>
> the separate target device determining during the SELECTION phase whether any single bit of the SCSI data bus is asserted to indicate the initiator device selecting itself as a target; and
>
> if any single bit of the SCSI data bus is asserted, the separate target device responding on the SCSI bus.

The Examiner relies on the following reference:

Coulson et al. (Coulson) 5,367,647 November 22, 1994
(effective filing date August 19, 1991)

Claims 1-11 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Coulson.

We refer to the final rejection (Paper No. 24) and the examiner's answer (Paper No. 32) (pages[2] referred to as "EA__") for a complete statement of the Examiner's position, and to the brief (Paper No. 31) (pages referred to as "Br__") and reply brief (Paper No. 33) (pages referred to as "RBr__") for a statement of Appellant's arguments thereagainst.

OPINION

The claims are argued to stand or fall together (Br3). Claim 1 is analyzed as representative.

Coulson is directed to the same general problem addressed by Appellant of increasing the number of devices on a SCSI bus without violating the SCSI standard. The issue on appeal is whether Coulson employs the same claimed method and apparatus.

Appellant argues that Coulson does not teach: (1) "the separate target device not being assigned a SCSI address" because Coulson requires that the target device be assigned an address that is shared with an initiator device; and (2) "the separate target device determining during the SELECTION phase whether any

[2] The actual pages of the examiner's answer are unnumbered.

single bit of the SCSI data bus is asserted to indicate the initiator device selecting itself as a target; and if any single bit of the SCSI data bus is asserted, the separate target device responding on the SCSI bus" (emphasis added) because Coulson requires that the target device determines whether a specific bit corresponding to the initiator device is asserted.

(1)

As to limitation (1), the Examiner finds that Coulson teaches "the separate target device not being assigned a SCSI address (abstract)" (EA4) and that "Coulson [c]learly teaches the addressless target selection (e.g.[,] col. 2, lines 46-68 and col. 8, lines 18-64[)], Coulson accomplishes the targetless [sic, addressless] selection by sharing ID or bit number and by using self selection and sharing the address of a device with ID with a device that doesn't have an ID, adding [to] the number of devices connected to the SCSI [bus] (see col. 2, lines 64-68)" (EA6-7). The Examiner's real position appears to be as follows (EA7): "Examiner asserts that Coulson does not assign an address to the additional device connected to the SCSI [bus], the additional device merely asserts the address of the device that has an address assigned to [it] (see col. 8, lines 24-63). Examiner concludes that [] merely sharing an address does not equate to assigning an address to the additional device."

The cited portions of Coulson do not teach addressless target selection. The abstract discusses "the sharing of a SCSI address ID between a SCSI initiator and a target device," which teaches that the target device has an address, albeit one that is the same as the SCSI initiator. Column 2, lines 46-68, and column 8, lines 18-64, discuss address sharing, meaning that the target has an address which is the same as the initiator. Nothing in Coulson discusses an addressless target device.

We do not agree with the Examiner's position that address sharing is not the same thing as assigning an address to the additional device. Coulson expressly discloses that "address sharing" means giving the target device an ID address which is the same as the SCSI initiator. There are many references to the target having a an ID address (which is not unique), such as: (1) col. 8, lines 26-29 ("The initiator . . . asserts the ID address of the target device, which in this case is the same as the host adapter ID address."); (2) col. 8, lines 38-39 ("The target . . . has no unique ID address . . . ."); (3) col. 8, lines 44-45 ("Because it has the same ID address as the initiator, the target . . . ."); and (4) Fig. 3 showing host adapter 14 and controller 16D with the same address "ID #7." Coulson expressly discloses that the separate target device is assigned a SCSI address and, therefore, does not anticipate the limitation of "the separate target device not being assigned a

SCSI address." We also refer to Appellant's arguments (Br5-6; RBr1-3). The Examiner erred in finding anticipation. The rejection of claims 1-11 is reversed.

(2)

Although we have already reversed the rejection, we address limitation (2) for completeness.

As to limitation (2), the "Examiner asserts that Coulson teaches asserting any single bit, by using each ID address that corresponds to a data bit (see col. 4, lines 10-18)" (EA6) and finds that "[a]ny of the single bits reads on any of the bit assigned to each device connected to the SCSI [bus], and claim 1, clearly teaches that any other [of] the devices connected to the SCSI can be used to share the ID address to increase the number of devices using the SCSI [bus]" (EA7). It appears to be the Examiner's position that Coulson anticipates the "any single bit" limitations because any of the ID addresses in Coulson could be shared and because "any single bit" reads on the shared assigned address bit.

Appellant argues that the Examiner improperly equates Appellant's "any single bit" with Coulson's single, but assigned, bit (Br5; Br6-7). It is argued that "Applicant's 'any single bit' requires the system to be responsive to an arbitrary bit, not one particular bit" (Br7) and that Coulson is responsive to particular bits, not "any single bit." It is further argued that

"Coulson's target selection cannot occur upon assertion of 'any single bit' when only one bit, the shared address or bit, will cause the target to be selected" (RBr4).

This issue involves a question of claim interpretation. There are two occurrences of "any single bit" in claim 1 and any claim interpretation and application of Coulson must be consistent and satisfy both occurrences. We interpret the limitation of "determining . . . whether any single bit of the SCSI data bus is asserted" to mean determining whether only a single bit asserted on the SCSI data bus. It appears that Coulson determines whether any single bit is asserted (col. 8, lines 51-52: "there must be only one bit true"), as opposed to more than one bit (col. 8, lines 52-53: "If there is more than one bit true, meaning that another peripheral is reselecting the host"). Therefore, it is at least arguable under our claim interpretation that Coulson teaches "determining . . . whether any single bit of the SCSI data bus is asserted."

However, the limitation of "if <u>any single bit</u> of the SCSI data bus is asserted, the separate target device responding on the SCSI bus" (emphasis added) clearly requires that the target respond if any single bit is asserted, not just a bit corresponding to the shared address with the initiator. Coulson determines whether the single bit address matches the shared address of the initiator device. Therefore, the target in

Coulson responds only to a particular single bit, not to "any single bit" as claimed. For this additional reason, the anticipation rejection of claims 1-11 must be reversed.

CONCLUSION

Because Coulson does not disclose the limitations of "the separate target device not being assigned a SCSI address" and "if any single bit of the SCSI data bus is asserted, the separate target device responding on the SCSI bus," Coulson does not anticipate representative claim 1. The rejection of claims 1-11 is reversed.

REVERSED

JERRY SMITH Administrative Patent Judge	)
LEE E. BARRETT Administrative Patent Judge	) BOARD OF PATENT APPEALS AND INTERFERENCES
JOSEPH F. RUGGIERO Administrative Patent Judge	)

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